ATLS

VF / VT

- 1mg adrenaline IV (3-5 mins)
- 300mg amiodorone IV

Unshockable

- 1mg adrenaline IV (3-5 mins)

Narrow complex tachycardia

- Sinus massage / Valsalva
- If fails, 6mg IV adenosine + saline flush
- If fails, 12mg IV adenosine + saline flush

Bradycardia

Compromised (BP <90mmHg, HR <40, ventricular arrhythmia, heart failure)

OR

Recent asystole, mobitz type 2, complete heart block, ventricular pause >3 seconds

- 500 micrograms atropine IV

If no satisfactory response:

- Atropine 500 micrograms IV to maximum of 3mg
- If fails, adrenaline 2-10 micrograms / minute
- If fails, SpR+ advice / transcutaneous pacing

Anaphylaxis

- 0.5mg IM adrenaline (repeat every 5 minutes as required)
- 10mg chlorphenamine IV
- 200mg hydrocortisone IV

AF / atrial flutter

New onset (<48h)

Compromised (chest pain, HR>150, heart failure, systolic BP<90)

- DC cardiovert, if fails metoprolol up to 5mg IV over 4-5 minutes

Uncompromised

- Bisoprolol 5-10mg PO, flecainide 2mg/kg IV over 30 minutes (discuss SpR+, better for <65y, no cardiac history, not in flutter)

Pre-existing (>48h)

Compromised

- 1st line IV metoprolol 5mg, 2nd line 500 micrograms digoxin IV

Uncompromised

- Oral bisoprolol, oral digoxin

STEMI

- 300mg aspirin PO
- 5-10mg IV morphine + 10mg IV metoclopramide
- GTN spray
- Phone Hartbury suite (BRI out of hours)

NSTEMI

- 300mg aspirin + 300mg clopidogrel PO
- 2.5mg fondaparinux SC od (if creatinine clearance <20ml/min use enoxaparin 1mg/kg od)
- Atorvastatin 40mg ON
- Bisoprolol PO (HR>70, BP >110)

Acute Asthma

- Sit up + O2
- 5mg salbutamol nebulised
- 0.5mg ipratropium nebulised
- 100mg IV hydrocortisone / 40-50mg prednisolone PO
- CXR (exclude pneumothorax)

Life-threatening

- 1.2-2g IV magnesium sulphate

Pulmonary oedema

- Sit up
- Oxygen
- 2.5-5mg diamorphine slow IV
- 40-80mg furosemide slow IV
- GTN spray 2x puffs (not if sBP <90mmHg)
- GTN 2-10mg/h IV infusion (keep sBP >110mmHg)

Hypoglycaemia

Emergency treatment (unconscious, fitting, NBM, unable to swallow)

- 1mg glucagon IM
- Wait 10 minutes and recheck blood glucose

<4mmol/L

- 160ml 10% glucose IV over 15 minutes
- Repeat blood glucose after 10 minutes
- If still <4, repeat infusion

>4mmol/L and conscious

- Carbohydrate snack – 2 biscuits / 1 slice bread / 200-300ml milk

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Diabetic ketoacidosis

Discuss with ITU if:

- pH <7, age <17 or >75, cardiac or renal failure, pregnant, Na<120, K>6, septic, low BP, acute cardiac event

Tests

- Δ: lab blood glucose (not capillary), venous pH <7.3, venous HCO_3 <15, capillary ketones >3mmol/L or urine ketones 2+
- U+E, FBC, trop T, ECG, CXR, MSU, cultures

Fluids and potassium supplementation

IL 0.9% NaCl	1 hour
IL 0.9% NaCl	2 hours
IL 0.9% NaCl	2-4 hours
IL 0.9% NaCl	4 hours
IL 0.9% NaCl	4-6 hours
10% dextrose	10 hours

Plasma K+	Add KCl
<3.5 mmol/L	40 mmol
3.5-5.0 mmol/L	20 mmol
>5.0 mmol/L	Nil

Insulin

- Continue long-acting and discontinue rapid / mixed insulins
- **Fixed rate insulin 0.1 units/kg/h** until pH >7.3, HCO_3 >18mmol/L, capillary ketones <3 mmol/L
- Check trust DKA protocol for more details

Bicarbonate supplementation (pH <7, SpR+)

- 250-500ml 1.26% bicarbonate over 4 hour

Hyperosmolar hyperglycaemic state

Tests

- Δ: lab blood glucose (not capillary) >30mmol/L, osmolality (2Na + glucose + urea) >320mOsm
- If venous pH <7.3, venous HCO_3 <15, capillary ketones >3mmol/L or urine ketones 2+ → DKA
- U+E, FBC, trop T, ECG, CXR, MSU, cultures

Initial treatment

- IV fluids according to regimen
- Reduce osmolality by 5mOsm / kg / hour
- **Once glucose no longer falling, start fixed rate IV insulin at 0.05 units / kg / hour**
- Continue long-acting insulin but discontinue other diabetes medication

Na and Osmolality

- Reduce osm 3-8mOsm / kg / hour
- Reduce Na by 10mmol / 24hours
- For every 5.5 mmol/L reduction blood glucose, Na+ may rise 2.4mmol/L
- Only use 0.45% NaCl if osmolality fails to drop despite adequate fluid resus

IV fluid regimen

1L 0.9% NaCl	1-2 hours
1L 0.9% NaCl	2-4 hours
1L 0.9% NaCl	4-6 hours
1L 0.9% NaCl	6-8 hours
1L 0.9% NaCl	8-10 hours

Other

Urinary catheter + 1hourly fluid balance
Treat precipitating cause
Prophylactic LMWH
Assess pressure area

Status epilepticus

- Lorazepam 2-4mg slow IV

OR

- Buccal midazolam: 10mg (10+ years), 5mg (1-4 years), 2.5mg (6-12 months)

OR

- Rectal diazepam 10mg

Repeat dose after 10 minutes

Hyperkalaemia

Severe (>6.5 mmol/L or symptomatic)

- Cardiac monitor
- IV calcium gluconate 10% 10ml over 2 minutes (30 minutes if on digoxin. Repeat after 5 minutes if required)
- IV 10 units actrapid in 50ml of 50% glucose over 15 minutes. Repeat as necessary
- 20mg nebulised salbutamol if no IV access or resistant hyperkalaemia
- If venous HCO_3 <20, sodium bicarbonate 0.5-1g QDS PO or 250ml 1.26% IV over 2 hours (if not overloaded or anuric)

Hypokalaemia

Severe (<2.5 mmol/L or symptomatic)

- 40mmol KCl in 1L N. Saline BD or TDS
- Standard infusion rate 10mmol/h
- Maximum infusion rate 20mmol/h

Ward round checklist

- Observations (including blood glucose)
- Fluid balance
- Drug chart (VTE, antibiotics)
- Results and scans

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